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| <p>(21) International Application Number: <b>PCT/US98/17769</b></p> <p>(22) International Filing Date: <b>27 August 1998 (27.08.98)</b></p> <p>(30) Priority Data:<br/><b>08/920,630</b>      <b>27 August 1997 (27.08.97)</b>      <b>US</b></p> <p>(71) Applicant (for all designated States except US): <b>UNIVERSITY OF FLORIDA TISSUE BANK, INC. [US/US]; 1 Innovation Drive, Alachua, FL 32615 (US).</b></p> <p>(72) Inventors; and<br/>(75) Inventors/Applicants (for US only): <b>GROOMS, Jamie, M. [US/US]; 1 Innovation Drive, Alachua, FL 32615 (US). CARTER, Kevin, C. [US/US]; 1 Innovation Drive, Alachua, FL 32615 (US). SANDER, Tom [US/US]; 1 Innovation Drive, Alachua, FL 32615 (US). DULEBOHN, David, H. [US/US]; Suite 3, 2900 14th Street, Naples, FL 33940 (US).</b></p> <p>(74) Agent: <b>BENCEN, Gerard, H.; Gerard H. Bencen, P.A., 426 Anderson Court, Orlando, FL 32801 (US).</b></p> |           | <p>(81) Designated States: <b>AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</b></p> <p><b>Published</b><br/><i>With international search report.</i><br/><i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> |

(54) Title: CORTICAL BONE CERVICAL SMITH-ROBINSON FUSION IMPLANT

## (57) Abstract

An implant composed substantially of cortical bone is provided for use in cervical Smith-Robinson vertebral fusion procedures. The implant is derived from allograft or autograft cortical bone sources, is machined to form a symmetrically or asymmetrically shaped (e.g. a substantially "D"-shaped) implant having a canal running therethrough according to methods of this invention, and inserted into the space between adjacent cervical vertebrae to provide support and induce fusion of the adjacent vertebrae. Osteogenic, osteoinductive or osteoconductive materials may be packed into the canal of the implant to expedite vertebral fusion and to allow autologous bony ingrowth.

